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Cambridge Associates' Letter to
the Senate Finance Committee
Regarding their January 24,
2008, Inquiry to Large Colleges
and Universities

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February 20, 2008

The Honorable Max Baucus
Chairman
Senate Finance Committee

The Honorable Charles Grassley
Ranking Member
Senate Finance Committee

219 Dirksen Senate Office Building
Washington, DC 20510-6200

Dear Senators Baucus and Grassley:

As a leading provider of investment consulting and financial planning services to colleges and universities since 1973, Cambridge Associates¹ has long assisted these institutions in formulating investment policies. These investment and spending policies seek to balance the needs of current and future students in a world in which investment returns are highly volatile and unpredictable and operating budgets are relatively inflexible. After learning of your inquiry in a letter dated January 24, 2008, to the 136 colleges and universities with endowment assets in excess of \$500 million, we thought we would supplement the information you are receiving directly from these institutions by sharing some of the key insights we have gained over the last 35 years.

- Each college or university is a unique institution; one-size-fits-all solutions do not work in this universe. Institutions vary widely in their reliance on endowment to support operations, with some institutions maintaining a high degree of financial flexibility, while others rely on endowment to support a significant percentage of the operating budget. In general, fixed costs are relatively high for colleges and universities, further limiting the utility of uniform policies and practices.
- Because operating expenses tend to be relatively fixed, institutions strive to maintain a degree of predictability in their annual spending. Spending a fixed percentage of a single-year market value introduces a high degree of variability into the spending stream. The most common means for smoothing spending in recent years has been to spend a fixed percentage of a trailing 12-quarter moving average of endowment market values. Smoothing spending in this way results in very low spending rates as a percentage of annual market values when capital market returns are strong and the endowment is growing, as has generally been the case in recent years, and very high spending rates when returns are weak and endowment values fall. Relative to a spending rule that is a fixed

¹ Cambridge Associates LLC is a privately held independent consulting firm that provides investment consulting and advisory services to global institutional investors and private clients, including 182 college and university clients.

percentage of beginning market values, a smoothed spending rule results in a more volatile spending rate, but a more predictable dollar value of spending each year.

- Institutions should base spending on relatively conservative *long-term* inflation-adjusted return assumptions. Colleges and universities can always spend more if performance exceeds expectations, but it is far more difficult for them to cut their relatively inflexible budgets if returns disappoint. Over the past 15 years, endowment spending at colleges and universities has increased at a remarkable rate, dramatically outpacing increases in tuition, and analyses of long-term data indicate that these institutions have not been willfully underspending. All the evidence we have suggests that at many colleges and universities financial aid grants have kept pace with, or even outpaced, the growth rate of tuition.

Given our observations, we would argue that imposing a single spending policy of any sort ignores the multifarious nature of higher education endowment funds and is unlikely in the long run to fulfill the Committee's objective of providing greater financial support to students. It is easy to see how an extended period of strong capital market performance can tempt various interested parties to extrapolate these gains into the future. However, history demonstrates that doing so is short-sighted and places a priority on benefiting the current generation at the expense of future generations of students. Decisions on investment and spending policies should be left to trustees, who have both a legal and a fiduciary responsibility to act in the best interests of their institutions.

The remainder of this letter and the attached exhibits seek to address these issues in more detail.

College and University Spending Rules: Variety and Flexibility Are Necessary

By far the most common spending rule for college and university endowment funds is 5% of a 12-quarter moving average of endowment market values. A quick glance at capital markets history indicates why institutions use this multi-year approach; if they were to base spending on single-year endowment market values, the high variability of returns on those assets would be transmitted to the spending stream, wreaking havoc with their budget planning process.² For colleges and universities where distributions from endowment constitute only a small percentage of the operating budget, this might be only a minor annoyance; however, for institutions where those distributions make up a significant portion of the operating budget (over 50% is very high, but greater than 25% is quite common), such an approach to spending makes no sense. Indeed, the second most common spending rule, employed by about 10% of college and university endowments, is some version of a constant growth approach, in which endowment spending is set to grow at a predetermined rate each year (typically tied to higher education inflation rates), regardless of fluctuations in portfolio market values. Where *predictability* in the amount to be distributed from the endowment is of paramount importance, this is obviously a preferred approach, but it results in very low spending rates during boom years for investment returns (eliciting criticism from alumni, faculty, and staff), and very high spending rates during bear markets (eliciting criticism from trustees).

² Tables A and B compare, from 1960 to today, a real annual spending rule that spends 5% smoothed over a 12-quarter average of endowment market values and a spending rule based on the average of beginning and ending annual market values, assuming an institution had the asset allocation of a representative large U.S. college or university over this period and achieved market index returns. The smoothed spending rule results in more predictable spending in dollar terms, but more variable spending as a percentage of beginning-of-year market values. For example, the historical simulation shows that an institution would have spent roughly 6% of its beginning-of-year endowment market value in 1974–75 during the severe bear market, compared to just over 4% in the late 1990s bull market.

The notion that a one-size-fits-all spending rule should be imposed on all college and university endowments is therefore antithetical to the various and differing needs of these schools. Perhaps the single most important investment policy decision trustees make is: How much can we afford to spend? And they make that decision very much in the context of the needs and aspirations of their specific institution.

Intergenerational Equity: Sustainable Endowment Spending for Today and Tomorrow

The fundamental purpose of a rational spending policy is to mediate between the competing demands of present and future generations by enabling an endowed organization to spend as much today as is compatible with the preservation of purchasing power tomorrow. More simply, the most common objective of trustees is to maximize *sustainable* spending. If they spend more than the real (i.e., inflation-adjusted) return on investment, then obviously the endowment will be steadily depleted and the ability to spend as much tomorrow as today will be impaired. If they spend less than the real return on investment, then the endowment fund will grow, and tomorrow's inflation-adjusted spending may exceed today's. The first scenario favors the current generation of students at the expense of future generations; the second scenario favors future students at the expense of today's.

To illustrate the trade-offs between spending more today and the likelihood of sustaining real spending for future generations we look at the impact of spending 4%, 5%, or 6% of endowment assets at the start of each year on two \$100 million endowments with different risk/return characteristics. We compare an institution with an expected risk and return equal to that of the average of the 132 colleges and universities with assets in excess of \$500 million for which we have asset allocation data as of fiscal year-end 2007 to an institution representing the most conservative subset (i.e., lowest expected risk and return) of this universe.³ We assume that these endowments' investments will experience the long-term returns and volatility that we use for our long-range investment planning model. These assumptions are intended to reflect very long-term experiences, and do not include any view on the current investment climate.

In order to maintain intergenerational equity, an institution should strive to set its asset allocation and spending rate such that there is at least a 50% probability of preserving purchasing power. Anything lower would risk depleting the value of the endowment and future spending, while a much higher probability would risk favoring future generations over the present. As shown in Table C, for both representative institutions, spending 4% of endowment is expected to favor future generations by allowing the endowment to grow in real terms, while spending 6% of endowment is expected to favor the current generation by allowing the endowment to shrink in value over time. The results for the 5% spending rate are mixed. Based on this analysis, a 5% spending rate comes closest to maintaining intergenerational equity for the institution with average risk/return characteristics, but would be too high to be considered sustainable for a more conservatively invested institution. For this type of portfolio, the maximum sustainable spending rate would be expected to fall between 4% and 5%.

Ultimately, a depletion in purchasing power leads to lower expected spending in real terms, while an increase in purchasing power logically leads to higher spending over time. For both representative institutions, the significant differences in spending at the start of the analysis are expected to diminish over the next 20 years, after which the real value of spending is expected to decline if the spending rate were 6% and increase if it were 4%. Of course, given that the 5% spending rate is expected to roughly maintain purchasing power for the institution with average risk/return characteristics, spending is expected to remain relatively constant over

³ The conservative portfolio is based on the average of the six colleges and universities with the lowest expected risk and return.

the next 20 years, while for the more conservatively invested institution spending is expected to decrease over time as purchasing power is eroded.

In sum, colleges and universities adopt a wide range of asset allocations that have different expected risks and returns reflecting the unique circumstances of each institution. Any change in performance expectations, however minor, may result in a different spending rate that would be best suited to preserving intergenerational equity.

These analyses reflect some important simplifications that are worth highlighting. First, we discuss endowment spending as if there is one pool of assets and one spending rule. This is a gross simplification. In reality a college or university endowment reflects a group of individual endowments that are commingled into one investment pool. Even within an institution, individual endowments may be quite diverse, with some including restrictions on their use (e.g., to maintain a particular building), investment, and distribution (e.g., spend income only). Second, our analysis uses the Consumer Price Index (CPI) to measure inflation, which understates the level of inflation experienced by colleges and universities.⁴ Historically, these institutions have experienced inflation that runs just shy of 1% above the CPI on average, suggesting a lower spending rate is necessary to preserve the purchasing power of college and university endowment assets in real terms. Third, we assume spending based on beginning-of-year endowment market values. Had we assumed spending based on the trailing 12-quarter average used most frequently by college and university endowments, the likelihood of maintaining intergenerational equity would be very similar; however, the expected volatility of the spending stream would be considerably lower—a feature that would have obvious appeal to most colleges and universities.

Composing a Portfolio: The Unpredictability of the Market

Asset allocation is an essential element in solving the puzzle of how one can possibly predict future returns in order to figure out how much spending might be compatible with preservation of purchasing power. This raises the second most important decision trustees must make: How should we allocate our assets? In the 1960s, the answer was: 50% in U.S. equities and 50% in U.S. bonds. Why? Because that's what everyone regarded as "prudent." And the members of the endowment investment committee would spend their time discussing whether they should buy shares of Penn Central common or 6% "Telephone" (AT&T) preferreds. Spending policy was easy: the "prudent man" spent income only. Then, in 1969, the Ford Foundation issued two groundbreaking reports. The first of these said that endowment funds were not legally restricted to spending income only, but could spend from capital appreciation. The other criticized colleges and universities for not having higher allocations to equities. Over the next several years, many institutions responded by significantly increasing their equity allocations and creating spending policies that reflected capital growth in their portfolios in addition to income.

Alas! Little did they know that, adjusted for inflation, the stock market had actually peaked in 1968; by 1972, it had almost recovered from the declines of 1969 and 1970, only to plunge into the abyss in 1973–74. Endowment funds were faced with a severe dilemma: should they slash spending in response to the precipitous declines in market value, or should they maintain spending, at least in nominal dollar terms, hoping to ride out the storm? In the event, most sought to maintain spending, more or less. It doesn't take much math to understand what happens to the contents of a water barrel that is rapidly evaporating from the top while simultaneously being drained from the bottom. It took until at least the early 1990s for most

⁴ College- and university-specific inflation, as represented by the Higher Education Price Index (HEPI), is typically higher than CPI. On average since the index's inception in 1962, HEPI has averaged about 0.9 percentage points higher than CPI annually.

college and university endowments to reach the level they had attained in 1968, adjusted for inflation. For those that spent more and/or responded to the bear market by shifting heavily into cash, thereby missing out on the 37.2% and 23.6% equity market returns of 1975 and 1976, respectively, it took until 1999 to recover. And if they had failed to diversify their portfolios properly, they were immediately decimated again by the bear market of 2000–02.

Lessons Learned: Diversification and Prudent Spending Are Critical to Success

So what have trustees learned from this painful history? First, that a highly diversified asset allocation can mitigate the inherent risk of equities. Even as late as 1990, most college and university endowment funds were invested almost entirely in U.S. equities, bonds, and cash. Today, they are massively more diversified, with investments in foreign equities and bonds, private markets, real estate, commodities and natural resources, and all manner of hedge fund strategies. As they often say in commercials, however, “don’t try this at home!” Most individual investors lack the requisite knowledge and expertise to invest effectively in many of these kinds of assets. Leading endowment funds, however, have made huge advances in governance in the past 30 years. Trustees no longer pick stocks; instead, they pick chief investment officers or outside investment advisors to manage the portfolio. And the results speak for themselves: all over the world, whether from sovereign wealth funds, private foundations, public or corporate pension funds, or even very wealthy individuals, we get the same question: How can we invest like Harvard and Yale? Over the past 20 years, the leading college and university endowments, as a group, have been *the most successful* institutional fiduciary investors on the planet. Not by taking massive risks that happen to have paid off, but by adopting cogent, tailored investment policies, carefully calibrated for risk, and by implementing those policies in a highly disciplined and effective way.

The second lesson culled from the 1970s debacle is: Don’t base spending decisions on extrapolations of bull market gains into an uncertain future. What the market giveth, the market also taketh away. Prudent spending should be predicated on relatively conservative *long-term* inflation-adjusted return assumptions, carefully derived from capital markets history and equity risk premia. If markets prove benign and returns above average, one can always spend more. What is much more difficult, given the relative inflexibility of college and university budgets, is to spend less if one suffers a shortfall in returns. This is precisely the reason that colleges and universities require flexibility in setting their spending rules.

Take for example, a college with a \$100 million endowment that has determined it can spend 5% of endowment assets and achieve intergenerational equity. However, this institution has high fixed costs and must maintain spending of at least \$4.5 million to support its operating budget, as other revenue sources would fail to fill any decline in endowment support. If the endowment experienced a decline of just 20%, which is not that uncommon, and spending continued at \$4.5 million, the spending rate would increase to 5.6%. Only by spending a *lower* percentage of asset value (although perhaps still a higher dollar amount) in boom years could this institution get back to a long-term spending rate of 5.0%. In other words, such institutions have an effective floor on the dollar amount of spending they must maintain, causing them to spend at a higher percentage of assets when endowment market values fall. They currently have the flexibility to compensate for this period of overspending when assets appreciate, increasing their ability to preserve the purchasing power of their endowments for future generations of students.

Results: Impressive Growth in Spending and Financial Aid Grants

The payoff to institutions from the development of more robust governance structures, more disciplined and diverse asset allocation, and more carefully calibrated spending policies has been nothing short of

spectacular. For the 26 colleges and universities with endowment assets of over \$500 million for which we have a long history of spending data, we calculate that the cumulative increase in spending over the past 15 years has been 370% in nominal terms and 226% in real (i.e., inflation-adjusted) terms, or 24.7% and 15.1% on an average annualized basis. In other words, spending from endowment has increased about 3.25 times, even adjusted for inflation.

This steady infusion of investment income to the operating budget has contributed mightily to the continued pre-eminence of America's institutions of higher learning. It has enabled them to out-compete rivals for top faculty talent, to fund research, and to subsidize student tuition to a massive extent. The tuition subsidy is particularly important: Although the sticker price of an education at a top-tier college or university seems eye-popping,⁵ the truth is that only a minority of students typically pay the posted price; at the vast majority of well-endowed schools, by far the most significant recipient of spending from unrestricted endowments is financial aid. At many schools, financial aid grants have kept pace with, or even outpaced, the growth rate of tuition. Indeed, recent moves by the wealthiest endowments to shift their support for lower-income students entirely to grants-in-aid from some combination of grants and loans is a direct consequence of the superior investment performance realized by their endowment funds.

The Role of Trustees: Obligated to Act in an Institution's Best Interests

America's taxpayers certainly have a legitimate interest in knowing whether America's college and university endowment funds are well managed and effectively fulfilling their mission of providing a suitable level of support to their institutions. After all, the rationale for these funds' tax-exempt status is their provision of such invaluable services to the nation. Frankly, colleges and universities have generally done a poor job of explaining to the public at large the connections between investment performance, spending from endowment, and financial support to students, faculty, research, and so on.⁶ However, for the government to supplant the authority of an institution's trustees by mandating a uniform spending policy—that may or may not fit the circumstances of a particular school—is an instance of a “solution” looking for a problem that does not exist.

There is no compelling reason to presume that trustees are interested in blindly accumulating endowment wealth. No investment fund—whether endowment, pension, or personal—exists as an end in itself, but rather as the means to realize some financial objective. In the case of college and university endowments, that objective is to maximize sustainable spending in whatever way the trustees deem to be in the best interest of their particular institution. And if trustees are notably imprudent or negligent in exercising this fiduciary obligation, they are already liable to prosecution in most states by the State Attorney General. On the whole, all the available evidence suggests that trustees have realized this objective extraordinarily well, increasing spending dramatically over the years, while ensuring they do not put the endowment at risk of another catastrophic depletion of purchasing power like that endured during the 1970s. In short, we find nothing broken here.

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⁵ Several decades ago, a university colleague pointed out to me that the annual tuition at colleges and universities had always mirrored that of cars: the most expensive cars cost about as much as the most expensive private schools while the less exclusive institutions charged rates comparable to the price of an economy car. He predicted this relationship would persist—and so it has!

⁶ There are, of course, exceptions. For example, see the cogent explanation of Swarthmore College's endowment spending policy included in its 2006–07 financial report, available at www.swarthmore.edu.

At most colleges and universities there are plenty of stakeholders seeking to find ways to spend more today. However, there are few advocates looking out for the interests of future generations of students. Trustees, who have a legal responsibility to steward these institutions into the future, play an important role in balancing these intergenerational objectives. We believe that the responsibility for adopting spending and asset allocation policies in the best interest of individual institutions should remain in the capable hands of trustees.

We would be happy to share further observations based on our extensive research and experience in providing colleges and universities with investment consulting and financial planning services for the last several decades.

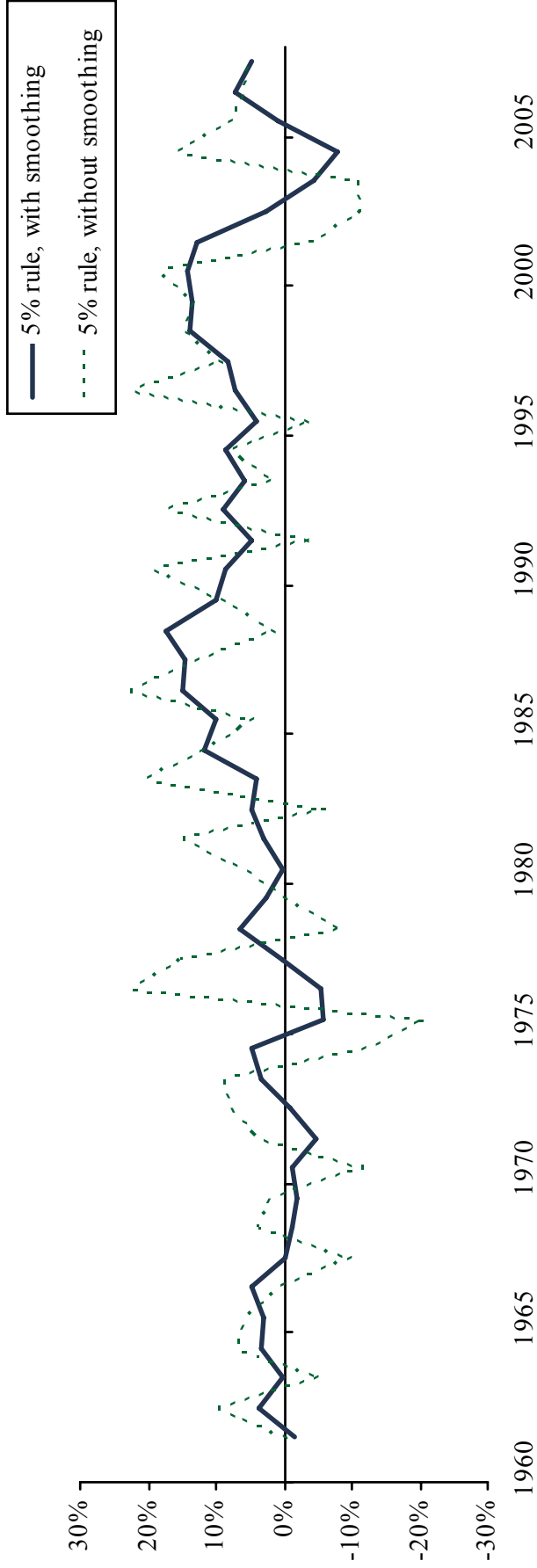
Sincerely,

A handwritten signature in black ink that reads "Ian Kennedy". The signature is written in a cursive style with a long, sweeping underline that extends across the width of the name.

Ian Kennedy
Director of Research

Table A
Multi-Year Spending Rule Modulates Variability

Annual Percentage Change in Nominal Spending



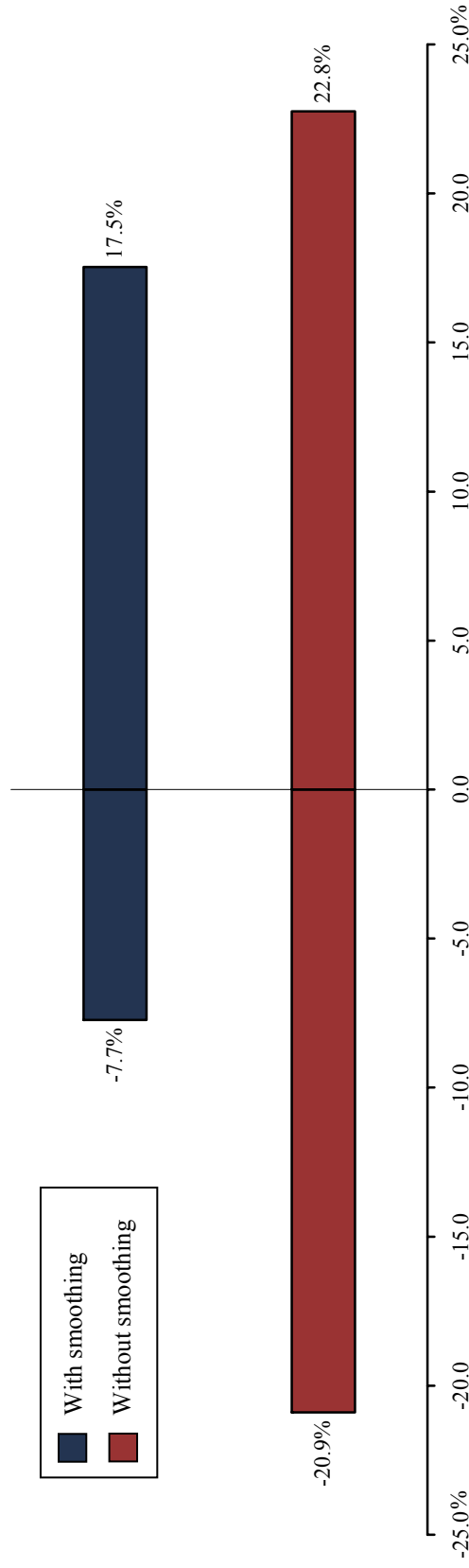
Notes: Assumes a starting endowment market value of \$100 million in 1960. Historical asset allocation is reflective of the average college and university. Data from 1960–1991 are based on a variety of proprietary sources. Data from 1992–2007 are based on the average asset allocation of the colleges and universities with endowment assets over \$500 million in Cambridge Associates’ proprietary endowment database that have a constant sample of data.

Source: Cambridge Associates LLC proprietary spending models, February 2008.

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Table B Impact of Smoothing on Fluctuations in Spending

Historical Range of Annual Percentage Change in Nominal Spending, 1960–2007



- Both spending rules have the goal of spending 5% in real terms over the long term.
- Smoothing reduces annual variability of endowment spending, making budgeting easier.
- History suggests that without smoothing, an endowment could experience cuts of 10% or greater in spending 10% of the time.

Notes: Assumes a starting endowment market value of \$100 million in 1960. Historical asset allocation is reflective of the average college and university. Data from 1960–1991 are based on a variety of proprietary sources. Data from 1992–2007 are based on the average asset allocation of the colleges and universities with endowment assets over \$500 million in Cambridge Associates' proprietary endowment database that have a constant sample of data.

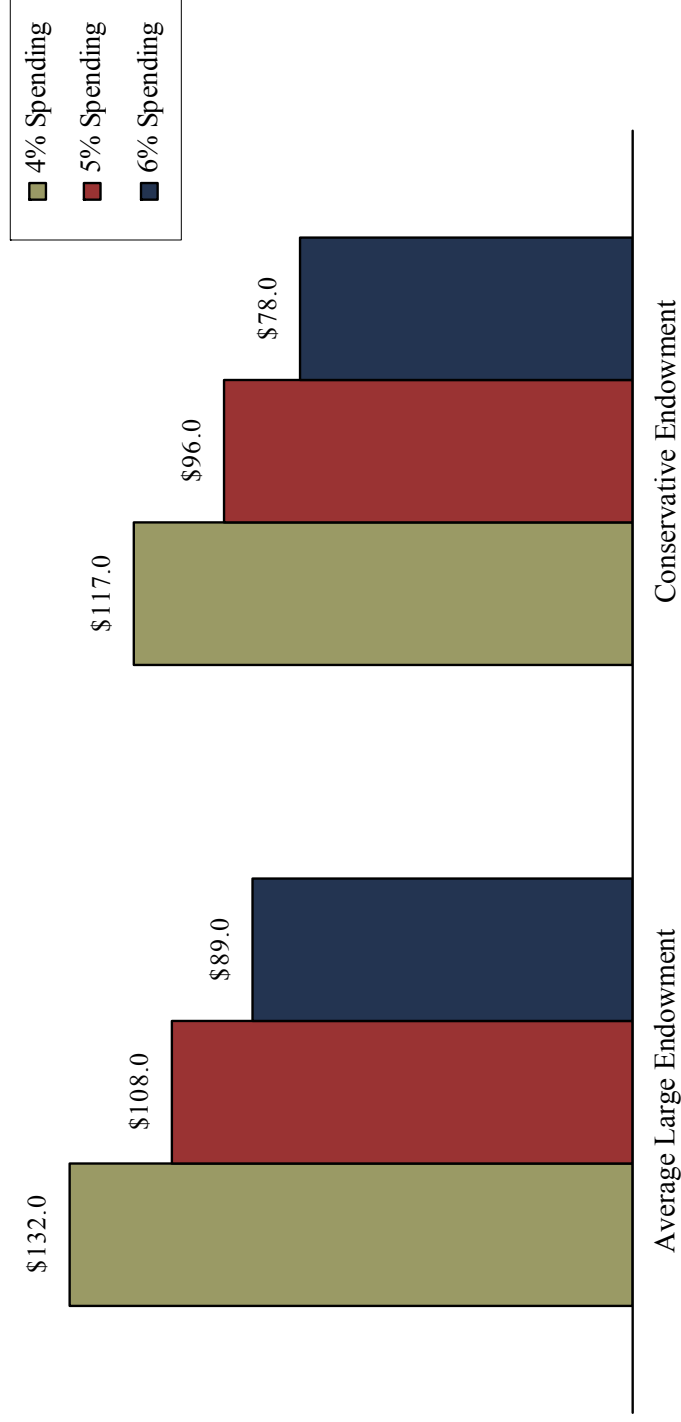
Source: Cambridge Associates LLC proprietary spending models, February 2008.

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Table C – Part 1 Maximizing Sustainable Spending While Preserving Purchasing Power: One Size Does Not Fit All

Median Expected Real Market Value in 20 Years

Initial Endowment Market Value \$100 Million

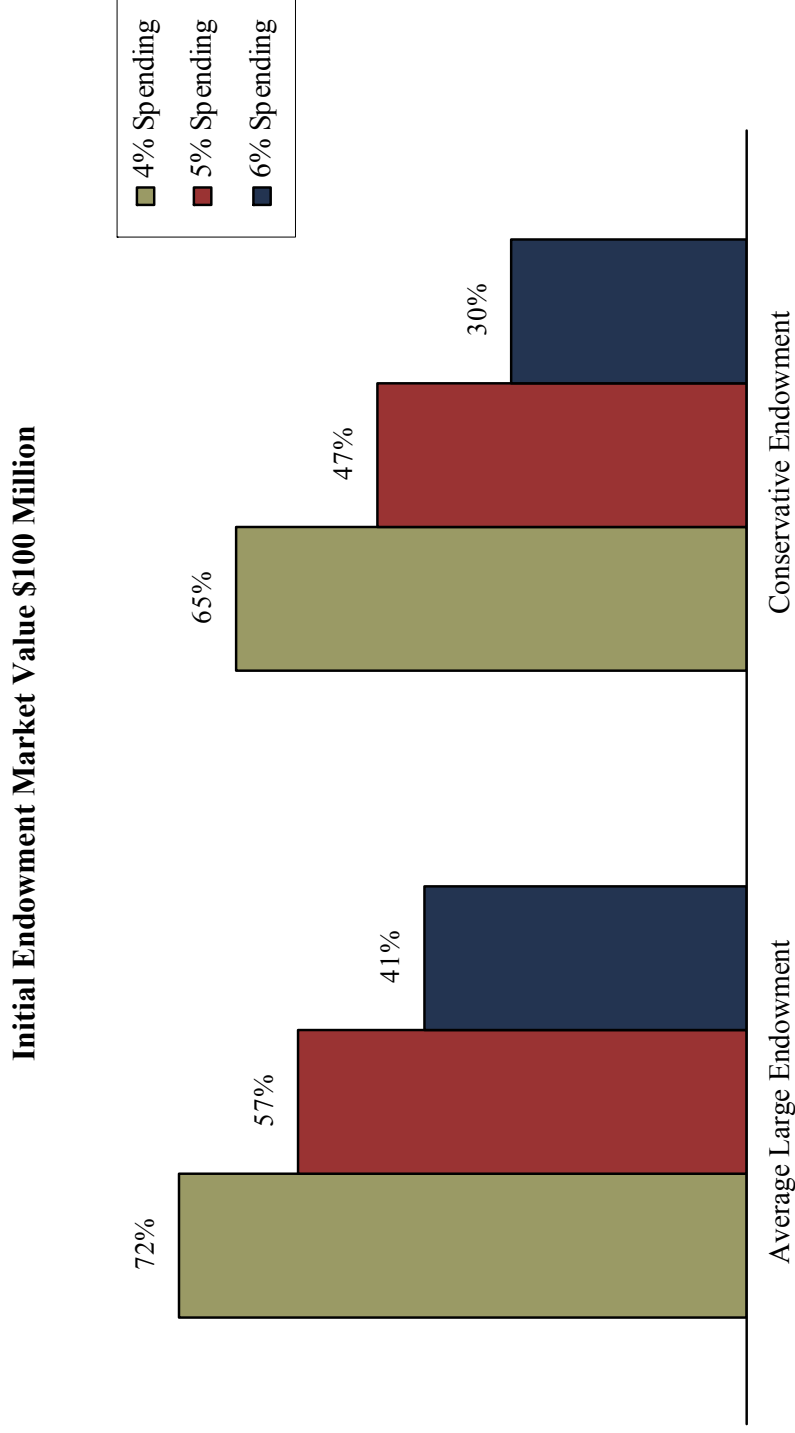


Notes: The average large endowment reflects a college and university with the average risk and return of the 132 institutions with assets in excess of \$500 million in Cambridge Associates' proprietary endowment database. The conservative endowment reflects the average risk and return of a subset of this group—the six institutions with the lowest risk/return profile.

Source: Cambridge Associates LLC proprietary spending models, February 2008.
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Table C – Part 2 Maximizing Sustainable Spending While Preserving Purchasing Power: One Size Does Not Fit All

Probability of Maintaining Purchasing Power in Year 20



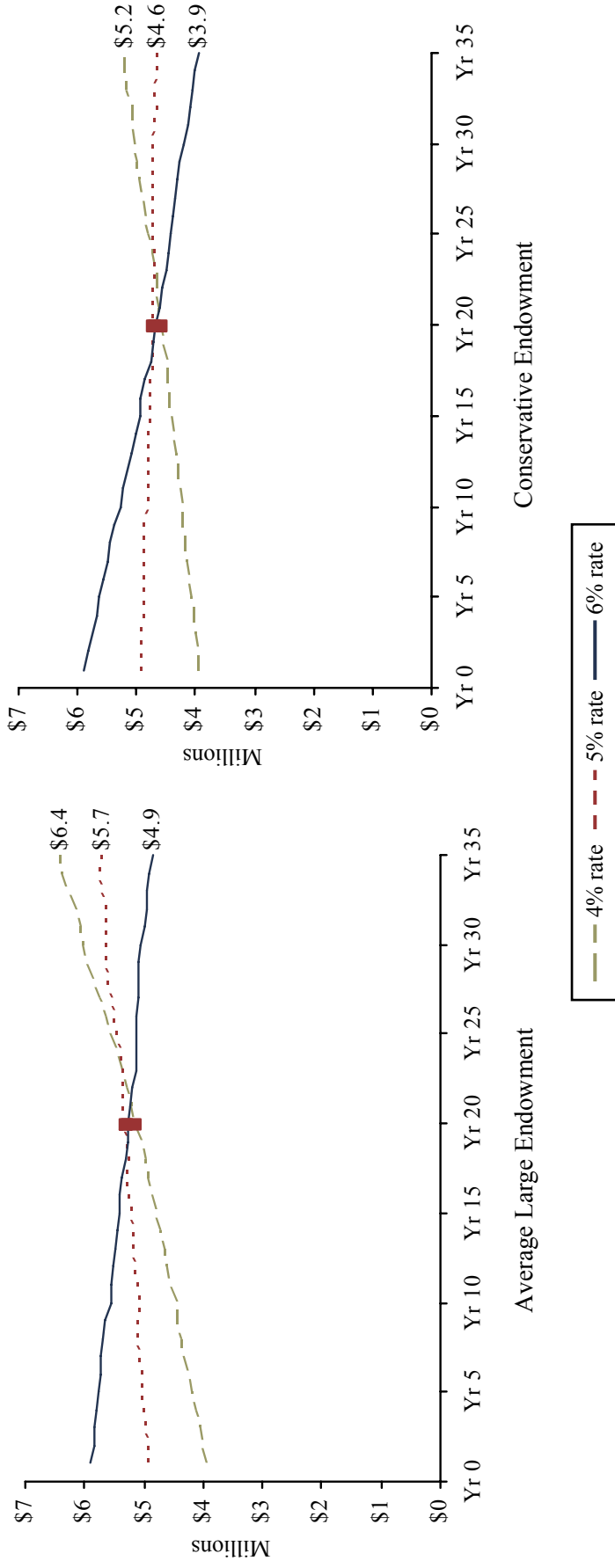
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Table C – Part 3 Maximizing Sustainable Spending While Preserving Purchasing Power: One Size Does Not Fit All

Real Spending Over Time

Initial Endowment Market Value \$100 Million



Notes: The average large endowment reflects a college and university with the average risk and return of the 132 institutions with assets in excess of \$500 million in Cambridge Associates' proprietary endowment database. The conservative endowment reflects the average risk and return of a subset of this group—the six institutions with the lowest risk/return profile.

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